

## Supplementary material

### Human health risk assessment for exposure to potential toxic elements in polluted rivers in the Ecuadorian Amazon

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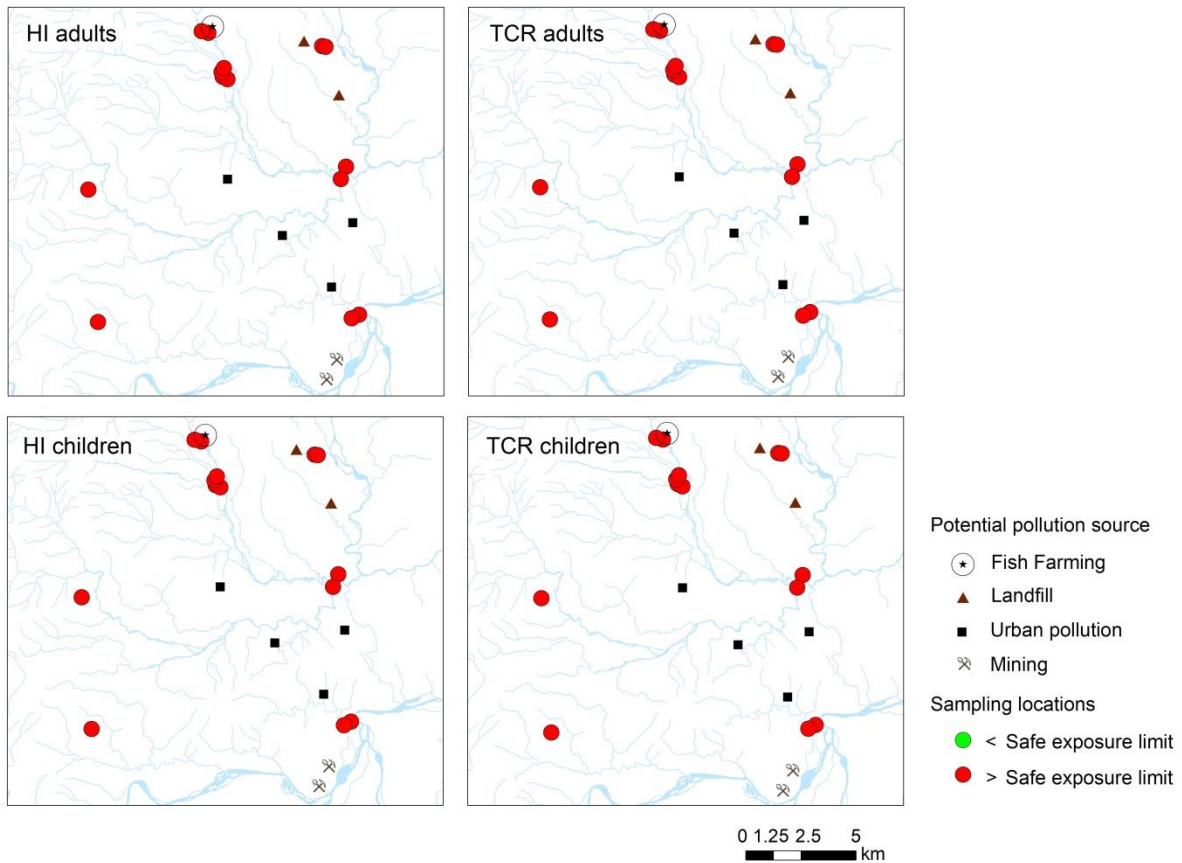
#### Supplementary materials caption:

**Figure S1.** Point risk map of HI and TCR for both age groups exposed to polluted sediments. All the studied locations were above the safe exposure threshold.

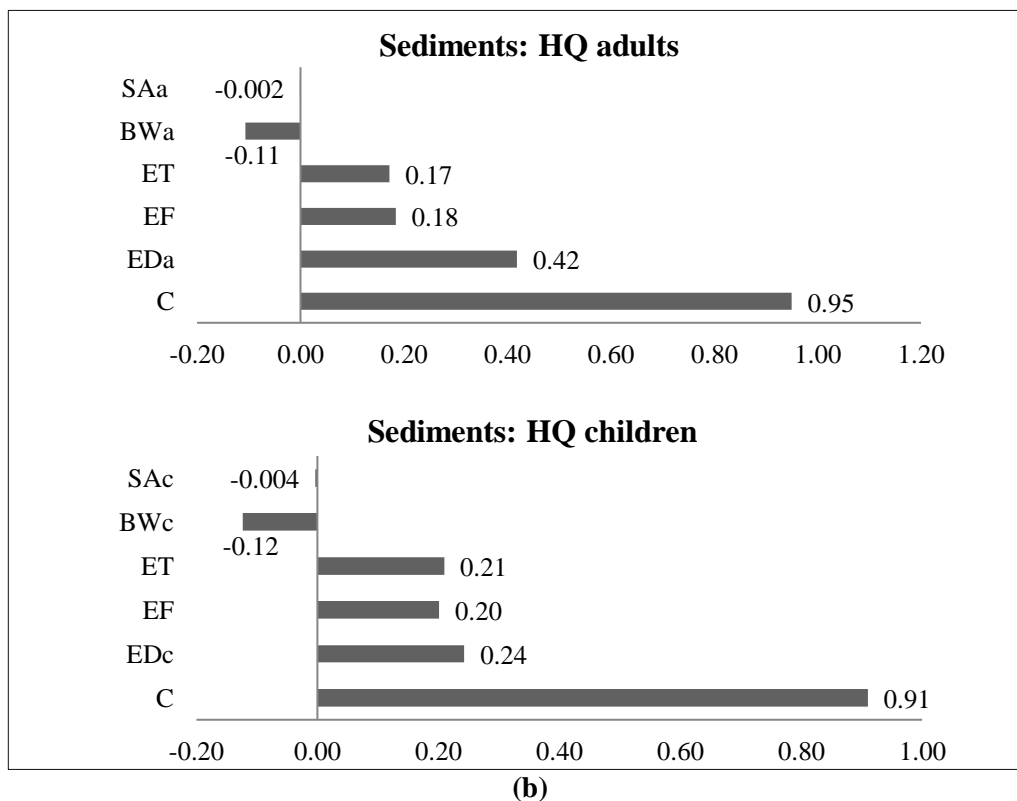
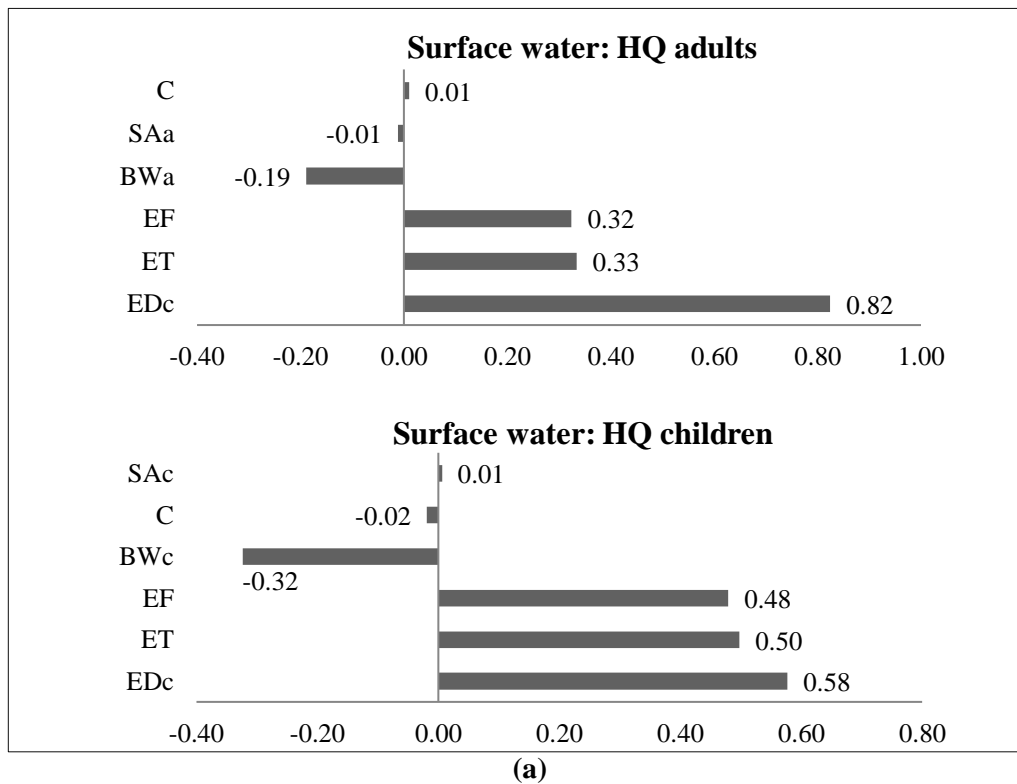
**Figure S2.** Sensitivity analysis result to identify the relative contribution of input variables on HI for: (a) surface waters and (b) sediments.

**Figure S3.** Spatial distribution of PTEs concentration in: (a) surface waters ( $\mu\text{g L}^{-1}$ ) and (b) sediments ( $\text{mg kg}^{-1}$ ).

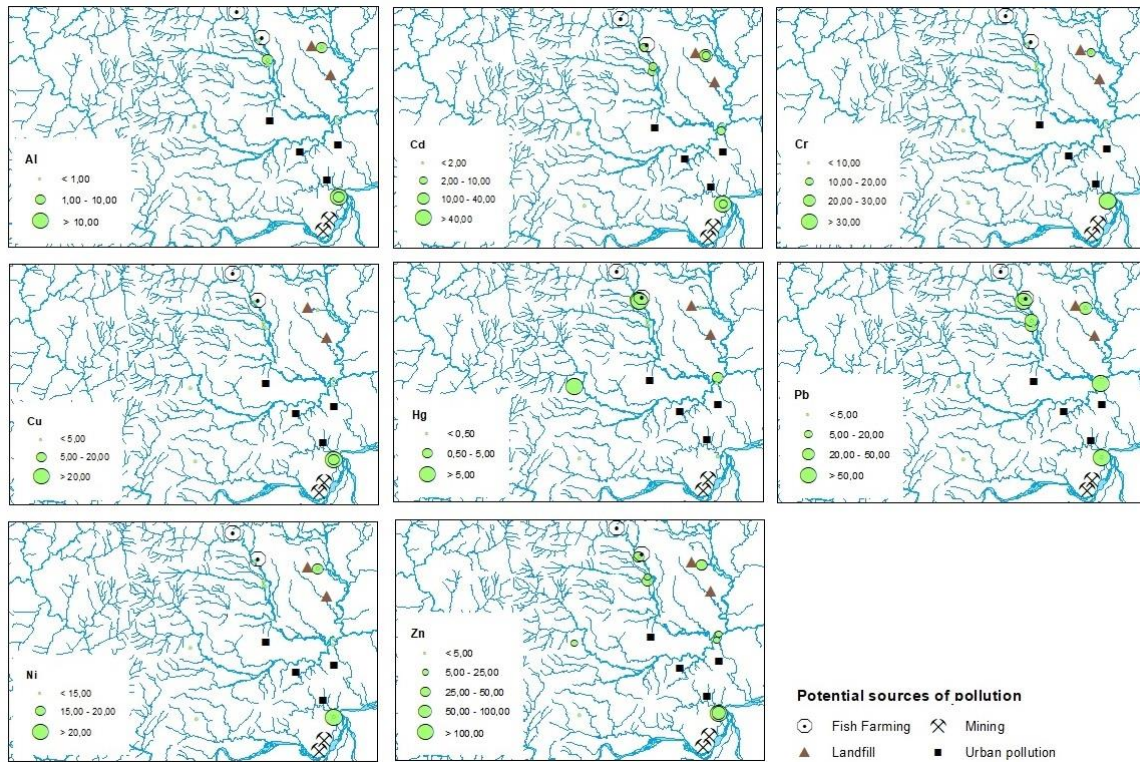
**Table S1.** Reference doses (RfD) and slope factors (SF) used in the risk assessment.



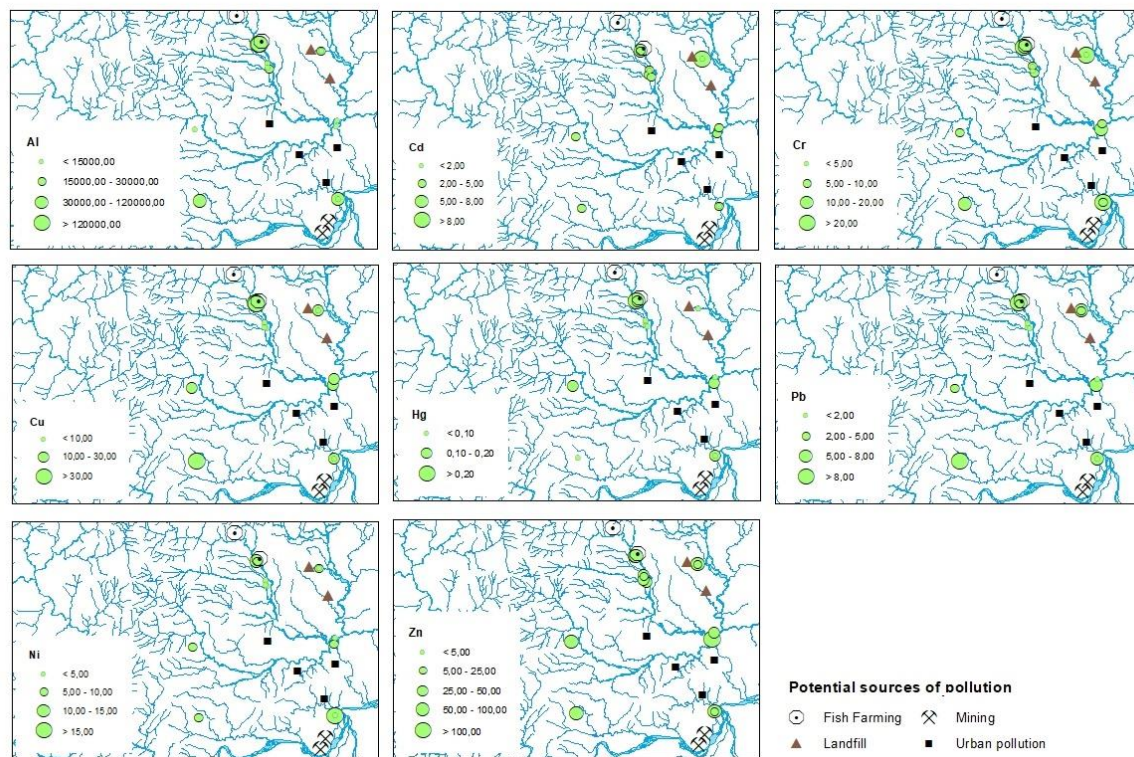
**Figure S1.** Point risk map of HI and TCR for both age groups exposed to polluted sediments. All the studied locations were above the safe exposure threshold.



**Figure S2.**Sensitivity analysis result to identify the relative contribution of input variables on HI for: (a) surface waters, and (b) sediments. Concentration of potential toxic elements (C); exposure duration (EDa/c); exposure frequency (EF); exposure time (ET); body weight (BWa/c); and skin surface area exposed (SAa/c).



(a)



(b)

**Figure S3.** Spatial distribution of PTEs concentration in: (a) surface waters ( $\mu\text{g L}^{-1}$ ), and (b) sediments ( $\text{mg kg}^{-1}$ ). Data obtained from Capparelli et al. [1].

**Table S1.** Reference doses (RfD) and slope factors (SF) used in the risk assessment.

PTEs	RfD	SF
Al	1.0	-
Cd	0.0005	-
Cr (VI)	0.003	0.5
Cu	0.04	-
Hg-inorganic	0.0003	-
Me-Hg (methylmercury)	0.0003	-
Ni and soluble salts	0.02	-
Pb and compounds	0.0035	0.0085
Zn and compounds	0.3	-

Data obtained from the Risk Assessment Information System (RAIS) website [2]

## References

1. Capparelli, M.V.; Moulatlet, G.M.; Abessa, D.M.S.; Lucas-Solis, O.; Rosero, B.; Galarza, E.; Tuba, D.; Carpintero, N.; Ochoa-Herrera, V.; Cipriani-Avila, I. An integrative approach to identify the impacts of multiple metal contamination sources on the Eastern Andean foothills of the Ecuadorian Amazonia. *Science of the Total Environment* 2020, 709, 136088, doi:10.1016/j.scitotenv.2019.136088.
2. RAIS. Risk Assessment Information System, 2020. U.S. Environmental Protection Agency. Available online: <https://rais.ornl.gov/> (accessed on 12 October 2020).